

IN THE CLAIMS:

Please cancel claims 36, 66 and 68.

Please amend the following claims:

Claim 25 (amended) A process for accumulating trehalose in cells of a plant, said plant cells having a trehalase activity and having been genetically altered so as to contain a yeast gene coding for a bipartite trehalose synthesizing enzyme that is expressed in said plant cells with resultant production of trehalose in the plant cells, said process comprising inhibiting the trehalase activity by exogenously administering to the plant a trehalase inhibitor in an effective amount to inhibit the trehalase activity sufficiently to allow or increase an accumulation of trehalose in the plant cells.

Claim 35 (thrice amended) In a process for producing trehalose in plant cells, plants or parts thereof, wherein the plants are genetically altered to synthesize trehalose so as to contain a gene coding for a trehalose synthesizing enzyme, said gene coding for the trehalose synthesizing enzyme being a bacterial or fungal gene coding for trehalose phosphate synthase, said plants naturally comprising an endogenous trehalase activity, the improvement comprising:

(a) inhibiting the endogenous trehalase activity in the plants or parts thereof and cultivating the plants to allow an accumulation of trehalose in the plants or parts thereof, said inhibiting comprising cultivating the plants or parts thereof in the

presence of a chemical trehalase inhibitor; and

(b) screening for a plant or a plant part having a level of trehalose that is increased as a result of said inhibiting.

Claim 39 (amended) A process according to claim 35, wherein the plants are *Solanum tuberosum* plants.

Claim 41 (amended) A process according to claim 35, wherein said trehalase inhibitor comprises validamycin A in a form suitable for uptake by said plants or parts thereof.

Claim 49 (amended) A process according to claim 35, wherein the trehalose inhibitor is selected from the group consisting of: validamycin A, trehazolin produced in *Micromonospora*, strain SANK 62390, validoxylamine A, validoxylamine B, validoxylamine G, D-gluco-Dihydrovalidoxylamine A, L-ido-Dihydrovalidoxylamine A, Deoxynojirimycin, 5-epi-trehazolin, castanospermin and the 86KDa protein from *periplaneta americana*.

Claim 59 (amended) A process according to claim 35, wherein the trehalase inhibitor comprises validamycin A in an amount between 100 mM and 10 mM in aqueous solution.

Claim 67 (amended) A process according to claim 35, wherein the gene coding for trehalose synthesizing enzyme is a yeast gene.